AMENDMENTS TO THE CLAIMS

Following is a listing of all claims in the present application, which listing supersedes all previously presented claims:

Listing of Claims:

1. (Currently amended) A micro-pump comprising:

a pumping chamber ~~having a predetermined inner space~~ to be filled with a fluid;

at least one fluid entrance and at least one fluid exit, which are connected to the pumping chamber;

a heating element ~~provided~~ at one side of the pumping chamber to generate bubbles in the pumping chamber by heating the fluid; and

electrodes for applying current to the heating element,

wherein a ~~the~~ fluid ~~is made to~~ flow into or out of the pumping chamber is by expansion and contraction of the bubbles, and wherein a cross-sectional area of at least one of the fluid entrance and the fluid exit varies along a direction of ~~in which~~ the fluid flow[[s]].

2. (Original) The micro-pump as claimed in claim 1, wherein the cross-sectional area of the fluid entrance decreases in a direction toward the pumping chamber, and the cross-sectional area of the fluid exit increases in a direction toward the pumping chamber.

3. (Currently amended) The micro-pump as claimed in claim 2, wherein the fluid entrance and the fluid exit are formed to have an inclination angle of ~~at least~~ about 50° to about 70°.

4. (Original) The micro-pump as claimed in claim 1, wherein the cross-sectional area of the fluid entrance increases in a direction toward the pumping chamber, and the cross-sectional area of the fluid exit decreases in a direction toward the pumping chamber.

5. (Original) The micro-pump as claimed in claim 4, wherein the fluid entrance and the fluid exit are formed to have an inclination angle of about 30° or less.

6. (Original) The micro-pump as claimed in claim 1, wherein the fluid entrance is provided at one side of the pumping chamber and the fluid exit is provided at an opposite side of the pumping chamber to face the fluid entrance.

7. (Currently amended) The micro-pump as claimed in claim 1, wherein each of the fluid entrance and the fluid exit has ~~each have~~ a pyramid shape.

8. (Currently amended) The micro-pump as claimed in claim 1, wherein each of the fluid entrance and the fluid exit has ~~each have~~ a uniform height and a width ~~that varies~~ varying in the ~~a~~ direction ~~in which~~ of the fluid flow[[s]].

9. (Currently amended) The micro-pump as claimed in claim 1, wherein each of the pumping chamber and the heating element has ~~each have~~ a rectangular shape.

10. (Currently amended) The micro-pump as claimed in claim 1, wherein each of the pumping chamber and the heating element has ~~each have~~ a circular shape.

11. (Original) The micro-pump as claimed in claim 1, wherein the heating element is formed of a resistive heating material.

12. (Currently amended) The micro-pump as claimed in claim 1, further comprising a substrate surrounding portions of ~~in which~~ the pumping chamber, the fluid entrance, and the fluid exit ~~are formed~~.

13. (Currently amended) The micro-pump as claimed in claim 12, further comprising an insulation layer ~~formed on~~ between the substrate and the heating element, the insulation layer being in communication with the fluid in the pumping chamber~~, wherein the insulation layer constitutes an upper wall of the pumping chamber, and the heating element and the electrodes are formed on the insulation layer~~.

14. (Currently amended) The micro-pump as claimed in claim 13, further comprising a passivation layer ~~having insulation characteristics formed~~ on the heating element and the electrodes.

15. (Original) The micro-pump as claimed in claim 14, further comprising a heat dissipation layer formed on the passivation layer for dissipating heat, wherein the heat dissipation layer is connected to the substrate.

16. (Original) The micro-pump as claimed in claim 15, wherein the heat dissipation layer is formed of a metal.

17. (New) The micro-pump as claimed in claim 1, wherein the heating element is outside the pumping chamber.

18. (New) The micro-pump as claimed in claim 1, wherein at least one of the fluid entrance and the fluid exit includes a surface slanted at an angle with respect to a bottom surface of the pumping chamber.

19. (New) The micro-pump as claimed in claim 13, wherein the insulation layer is an upper wall of the pumping chamber.